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A frequency synthesizer including a phase-locked loop (10), which phase-locked loop (10) comprises:

- a frequency divider (14) having integral dividing ratios, connected between a voltage-controlled oscillator VCO (12) and a phase-frequency comparator PFD (16),
- 5 a sigma-delta modulator (30), connected to the frequency divider (14) for commuting the dividing ratio of the frequency divider between a series of at least two integral values, so as to obtain a resulting mean dividing ratio of fractional component, the modulator having at least a digital input (34, 50) suitable for receiving an adjusting instruction of the fractional component.

In accordance with the invention, the frequency synthesizer further includes:

means for fixing the value of the least significant bit of the adjusting instruction to 1.

Fig. 3